



ReadyNAS Replicate

Add-on Manual

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Getting Started

1

ReadyNAS Replicate allows you to create an on-demand virtual private connection between two or more ReadyNAS systems. Unlike a traditional VPN application, all you need to do to establish this connection is add your ReadyNAS system to your virtual network and register the unit with the centralized management portal. After the connection is formed, your devices act as if they are on the same LAN.

This chapter covers the following topics:

- *[About ReadyNAS Replicate](#)*
- *[Installation](#)*

For more information about the topics covered in this manual, visit the support website at <http://support.netgear.com>.

Firmware updates with new features and bug fixes are made available from time to time on downloadcenter.netgear.com. If the features or behavior of your product does not match what is described in this guide, you might need to update your firmware.

About ReadyNAS Replicate

The ReadyNAS Replicate add-on lets you copy data from one ReadyNAS system to another. It uses the ReadyNAS Remote add-on as its underlying communication technology. ReadyNAS Remote allows devices to communicate with each remotely over the Internet. (For more information about ReadyNAS Remote, see the *ReadyNAS Remote Add-on Manual*.)

ReadyNAS Replicate allows data from one ReadyNAS system to be replicated to and restored from another ReadyNAS system. Using a centralized web portal, you can create, manage, and monitor backup and restore tasks that operate across ReadyNAS systems from multiple locations.

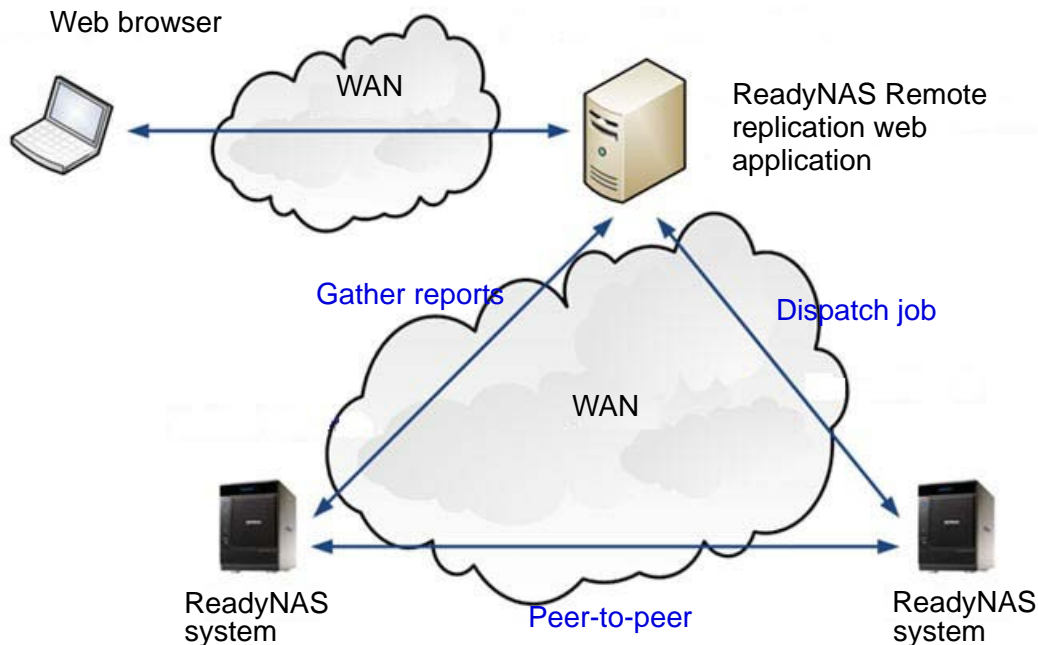


Figure 1. Create and manage jobs using ReadyNAS Replicate

Although replication and restore tasks happen between ReadyNAS systems, the central management portal gives you full control over every aspect of the process.

Use the central management portal to control data on your ReadyNAS systems from anywhere.

The management portal runs in the cloud and dispatches tasks to your ReadyNAS systems where the replication or restore job runs. You can use it to schedule jobs, immediately store and restore data, disable and resume jobs, and view consolidated reports.

You can restore a single file by date from one ReadyNAS system to another from anywhere with no need to download and copy the file, and no need for remote access to the network.

Installation

ReadyNAS Replicate is compatible with the following ReadyNAS storage systems:

- **RAIDiator 5.3 systems:**
 - Duo v2
 - NV+ v2
- **RAIDiator 4.2 systems:**
 - Ultra 2/4/6
 - Ultra Plus 2/4/6
 - Pro 2/4/6
 - 1500
 - 2100
 - 3100
 - 3200
 - 4200

To use ReadyNAS Replicate, you need the following:

- Two or more ReadyNAS systems on your network
- ReadyNAS Remote add-on
- A ReadyNAS Remote account
- A valid license key for ReadyNAS Replicate

You can obtain a ReadyNAS Remote account through the ReadyNAS Remote agent you install on your Windows or Mac computer, or you can create one during the ReadyNAS Replicate installation process.

You can obtain a ReadyNAS Replicate license key from a reseller or through a link on the application. If you do not have a license key, you can register for a 45-day trial period, after which a permanent ReadyNAS Replicate license is required. If you do not have a valid license key, you are denied access to ReadyNAS Replicate.

➤ **To install ReadyNAS Replicate:**

1. Ensure that the ReadyNAS Remote add-on is installed on each ReadyNAS system.

For more information, see the *ReadyNAS Remote Add-on Manual*.

2. Install the ReadyNAS Replicate Add-on as follows:

If your ReadyNAS storage system is running RAIDiator 4.2 firmware, follow these steps:

- a. Log in to the ReadyNAS system's FrontView management console.
- b. Select **Add-ons > Available**.

- c. Scroll down to the ReadyNAS Replicate pane and click the **Install** button.

A progress bar shows the download process. When the download completes, a pop-up window notifies you.

- d. Click the **OK** button.

The add-on now appears on the Installed Add-ons window.

- e. Select **Add-ons > Installed** and scroll down to the ReadyNAS Replicate pane.

ReadyNAS Replicate is ready to use if the **Manage ReadyNAS Replicate** button is active. If it is not, select the ReadyNAS Replicate button and click **Save**. The **Manage ReadyNAS Replicate** button activates.

If your storage system is running RAIDiator 5.3 firmware, follow these steps:

- a. In Dashboard, select **Configure > Add-ons**.

A window displays showing all available add-ons.

- b. Scroll down to the ReadyNAS Replicate pane and click the **Get** button.

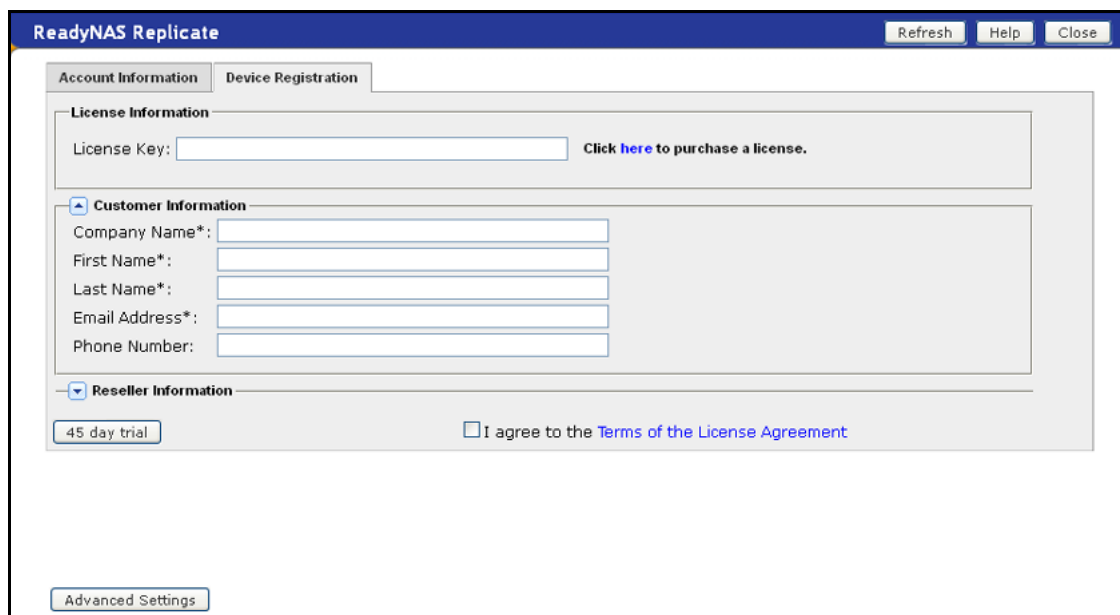
A dialog box displays when the add-on installation finishes.

- c. Click the **OK** button.

The add-on now appears on the Installed Add-ons window.

- d. Click the **Installed** button and scroll down to the ReadyNAS Replicate pane.

- 3 Click the **Manage ReadyNAS Replicate** button to enable replication for this ReadyNAS system.



The screenshot shows the 'ReadyNAS Replicate' configuration window. It has a title bar with 'ReadyNAS Replicate' and buttons for 'Refresh', 'Help', and 'Close'. Below the title bar are two tabs: 'Account Information' (selected) and 'Device Registration'. The 'Account Information' tab contains three sections: 'License Information' with a 'License Key' input field and a link 'Click here to purchase a license.'; 'Customer Information' with fields for 'Company Name*', 'First Name*', 'Last Name*', 'Email Address*', and 'Phone Number'; and 'Reseller Information' with a '45 day trial' button and a checkbox 'I agree to the Terms of the License Agreement'. At the bottom left is an 'Advanced Settings' button.

You are prompted to enter a license key.

If your storage system is behind an HTTP proxy server, the license and user registration process is not available until you enter the proxy setting. Follow these steps:

ReadyNAS Replicate

- a Click the **Advanced Settings** button.
The configuration tab is enabled.
- b. Click the **Configuration** tab.

The screenshot shows the 'ReadyNAS Replicate' web interface with the 'Configuration' tab selected. The 'Device ID' field contains 'pro1_001F33EA1CA7'. Under 'Use Proxy Server', the 'Type' is set to 'HTTPS'. The 'Specify Port for Incoming Connections' section shows 'Protocol' as 'TCP' and 'Port' as '6300'. The 'Security' section has 'Enable Encryption' and 'Enable Firewall' checked. The 'Debug' section shows 'Level Type' as 'Debug Mesg Info'. There are 'Apply Settings' and 'Advanced Settings' buttons at the bottom. The footer indicates 'p2p version 1.8.0-0'.

- c. Complete the required fields.
 - d. Click **Apply Settings**.
The settings are saved.
- 4 Enter the license key and click the **Update License** button.

The screenshot shows the 'ReadyNAS Replicate' web interface with the 'Device Registration' tab selected. The 'License Information' section displays a 'License Key' field, 'Type' as 'Trial', 'Valid from' as 'Fri, 24 Sep 2010 20:35:31 UTC', and 'Expiration' as 'Mon, 8 Nov 2010 20:35:31 UTC'. The 'Customer Information' section has fields for 'Company Name*' (NETGEAR), 'First Name*' (Jeff), 'Last Name*' (Cap), 'Email Address*' (jeffXXXXX@netgear.com), and 'Phone Number'. The 'VAR Information' section has an 'Update License' button and a checkbox for 'I accept agreement'. A link 'The licence agreement and terms' is also present. The footer indicates 'p2p version 1.8.0-0'.

A valid license key auto-populates your account information. This account is used to administer the application on the storage system.

If you do not have a license, do one of the following:

- Purchase a license using the **Click here to purchase a license** link.
- Purchase a license from your reseller.
- Click the **45 day trial** button to use the product without entering a key.

If you purchase a license, an email confirmation with the license key is sent to you. If you use the trial license and decide to purchase a license, follow these steps after you purchase a license:

- a. Return to this window.
- b. Enter the valid license key.
- c. Click the **Update License** button.

You are prompted to enter your ReadyNAS Remote account credentials.

The screenshot shows the ReadyNAS Replicate web interface. At the top left is the NETGEAR logo with the tagline "Connect with Innovation". At the top right is the text "ReadyNAS Replicate". Below this is a blue header bar with the text "ReadyNAS Replicate" and three buttons: "Refresh", "Help", and "Close". The main content area has two tabs: "Account information" (selected) and "Device Registration". Below the tabs is a large gray box containing the following text: "Your ReadyNAS Remote account will be used to administer ReadyNAS Replicate on your registered devices. Please enter your ReadyNAS Remote credentials." Below this text are two input fields: "Username:" and "Password:". Below the input fields is a "Register" button. At the bottom of the gray box is a link: "If you don't have a ReadyNAS Remote account, you can register [here](#)". At the bottom left of the interface is an "Advanced Settings" button. At the bottom right is the text "p2p version 1.8.0-0".

- 5 Enter your ReadyNAS Remote account ID and password and click the **Register** button.

Entering your ReadyNAS Remote account credentials registers your storage system so that ReadyNAS Replicate can display information about it in the management portal.

If you do not have a ReadyNAS Remote account, click the link and follow the prompts to create one.

Replicate and Restore Data

2

This chapter covers the following topics:

- *Access the Web Management Console*
- *Replicate*
- *Restore*

Access the Web Management Console

Use the ReadyNAS Replicate web management console to manage replication and restoration jobs between your ReadyNAS systems.

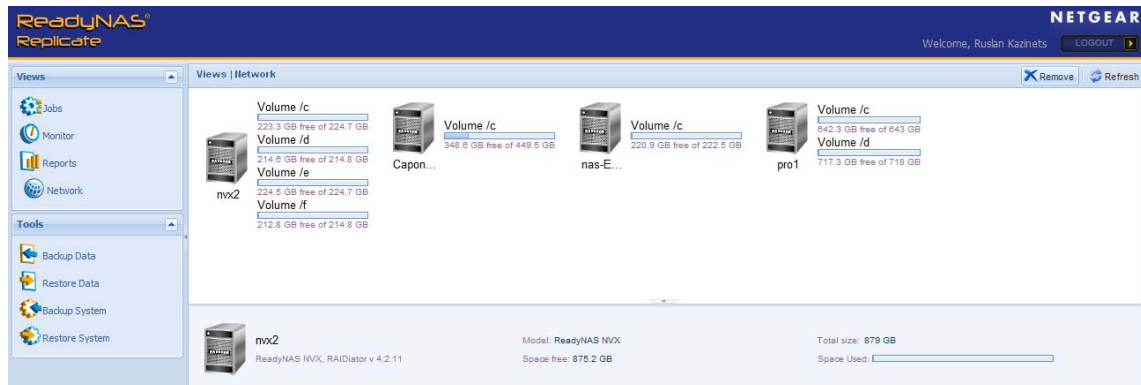
➤ **To log in to ReadyNAS Replicate:**

1. Using a browser, navigate to www.replicate.readynas.com.

- 2 Enter your ReadyNAS Remote ID and password.
The ReadyNAS Replicate application launches.

- 3 Select **Views > Network**.

The Replicate Home window displays.



From here, you can see and manage all the registered devices on the network.

Replicate

When a replication job first runs, all the data from the source ReadyNAS system must be replicated to the remote ReadyNAS system. The next time the job runs, only data blocks that have changed are sent to the remote ReadyNAS system. For this reason, the first replicate job might be much larger than later, incremental replicate jobs.

If you are replicating large amounts of data from your source ReadyNAS system, if possible, break up a larger replication job into smaller pieces and stagger the schedule. Perform the initial replication job and also the first few incremental replication jobs on the same LAN to get an idea of how large your incremental replication jobs will be.

The snapshot feature allocates storage space for the replication job to make sure that the source data and replication data are synchronized at the time of the replication job. You can specify how much of the snapshot reserve you want to use for the snapshot that is taken when a job runs and then released when the job completes. Snapshots ensure that the data replicated on the remote system is consistent with the data on the source system at the time that the replication job is run.

Note: ReadyNAS Duo v2 and NV+ v2 do not support snapshots.

The snapshot reserve is the amount of disk space that is shared by all active snapshots on the volume. The default snapshot reserve is 10 GB; however, NETGEAR recommends that you allocate up to 5 percent of your storage capacity.

New files being written to the ReadyNAS system do not affect snapshot reserve space; however, files that are modified or deleted do. Logical unit numbers (LUNs) in particular use up snapshot reserve space as any data written to the LUN, including new files, use snapshot reserve space.

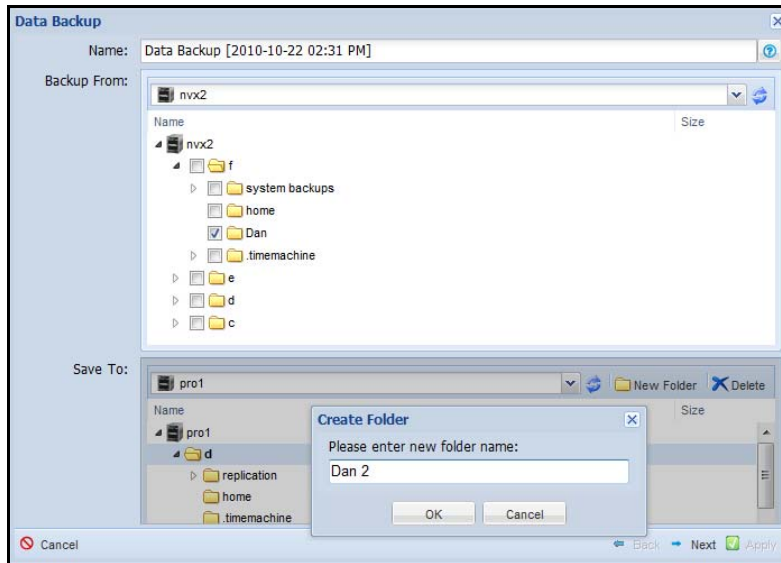
If you do not use snapshots, then files in use during the replication job are not updated at the remote site. If this happens, the job is shown to have failed, but the logs show that only files in use were not replicated. Typically, most files are copied, and in the next run of the job, the files that were not replicated are included in the replication job.

Replicate Data

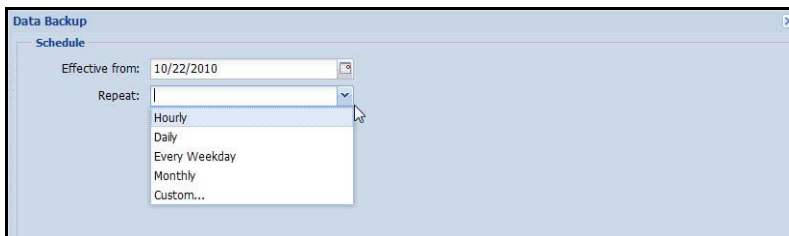
ReadyNAS Replicate allows you to replicate data at the individual folder level.

➤ **To replicate folder data:**

1. Select Tools > Backup Data.



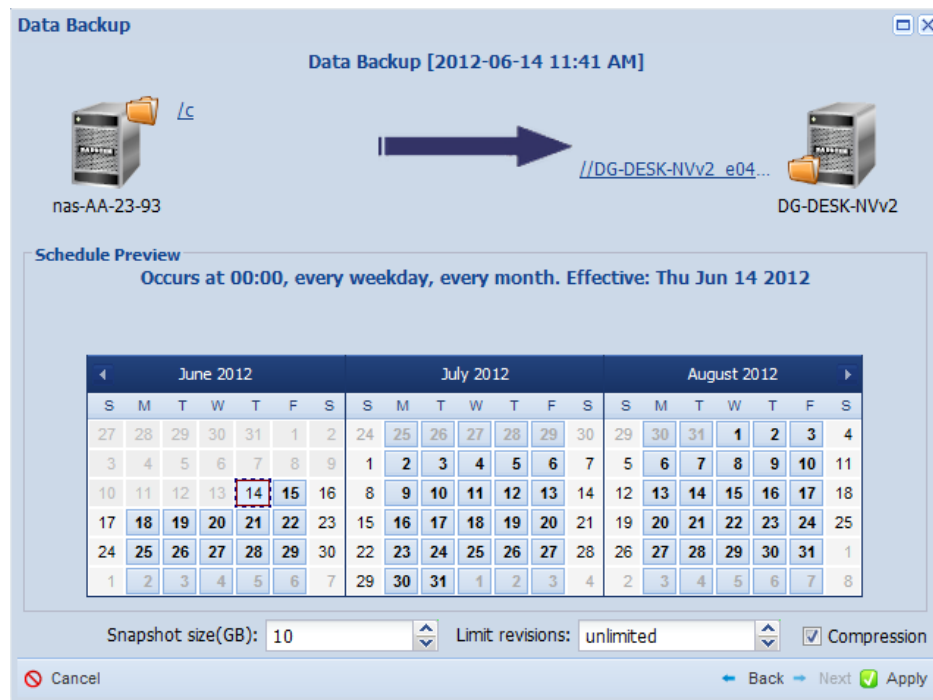
- 2.** From the **Backup From** drop-down menu, select the device and the folder to back up.
- 3.** From the **Save To** drop-down menu, select the destination where you want to copy the data.
If needed, click the **New Folder** button to create a folder for it.
- 4.** Specify the schedule for the replication job.



- a.** Select the date you want the backup to take effect.
- b.** From the **Repeat** drop-down menu, select one of the following:
 - Hourly
 - Daily
 - Every Weekday
 - Monthly
 - Custom

5 Click **Next**.

A preview window displays.



6 (Optional) Edit the **Snapshot size** setting.

Specify how much of the snapshot reserve you want to use for the snapshot that is taken when a job runs and then released when the job completes. The **Snapshot size** value is set to 10 GB by default.

7 (Optional) Edit the **Limit revisions** setting.

You can save all versions of files in your backup or you can specify the number of revisions to keep. The **Limit revisions** field is set to unlimited by default.

8 (Optional) Clear the **Compression** check box.

Compression is enabled by default.

For replication jobs running on the same LAN, disable compression because compression slows the transfer speed.

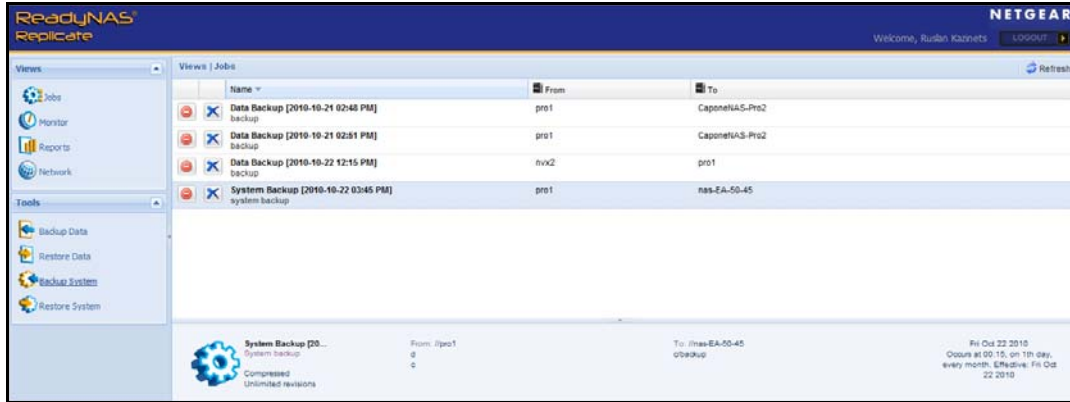
For WAN replication jobs, enable compression to keep the link from becoming a bottleneck. When scheduling jobs over the WAN, make sure that the link speed can allow the job to complete before the next job begins.

9 Click **Apply**.

Your changes are saved and the job is added to the list of scheduled jobs.

10. (Optional) Select **Views > Jobs**.

A list of scheduled jobs displays.



Replicate a System

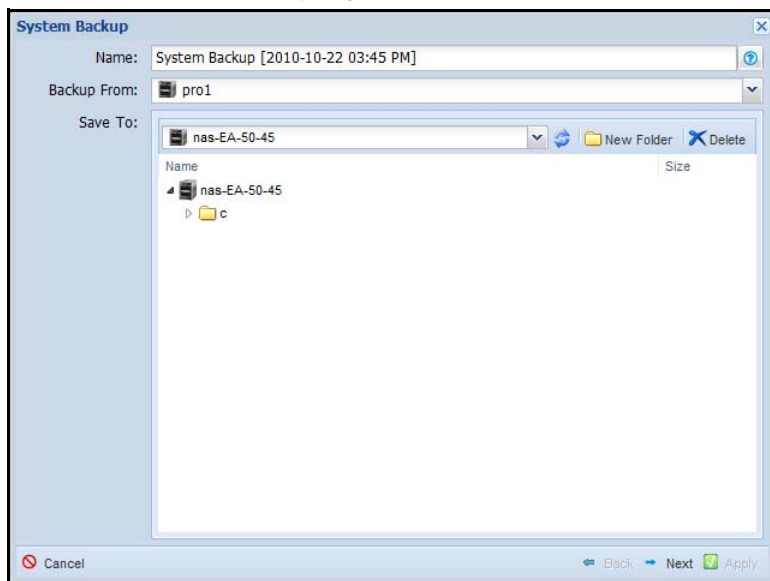
ReadyNAS Replicate allows you to replicate an entire system. The process is similar to replicating folders.

ReadyNAS Replicate supports replicating data at the system level only between ReadyNAS storage systems running similar firmware. For example, you can replicate system data between any two ReadyNAS systems running RAIDiator 5.3 firmware, but you cannot replicate system data between one ReadyNAS system running RAIDiator 5.3 firmware and another system running RAIDiator 4.2 firmware.

For a complete list of supported systems and the firmware they run, see [Installation](#) on page 6.

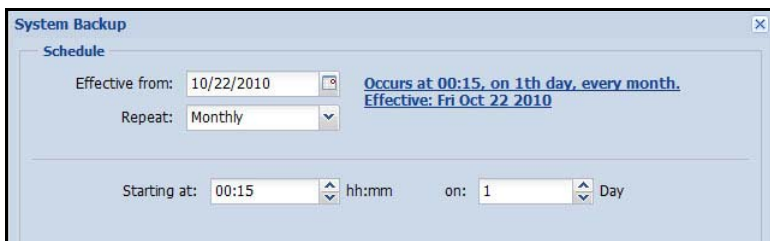
➤ To replicate system data:

1. Select **Tools > Backup System**.



2. In the **Backup From** drop-down menu, select the source system.
3. In the **Save To** drop-down menu, select the destination folder in which to copy the data.
If needed, click the **New Folder** button to create a folder.
- 4 Click **Next**.

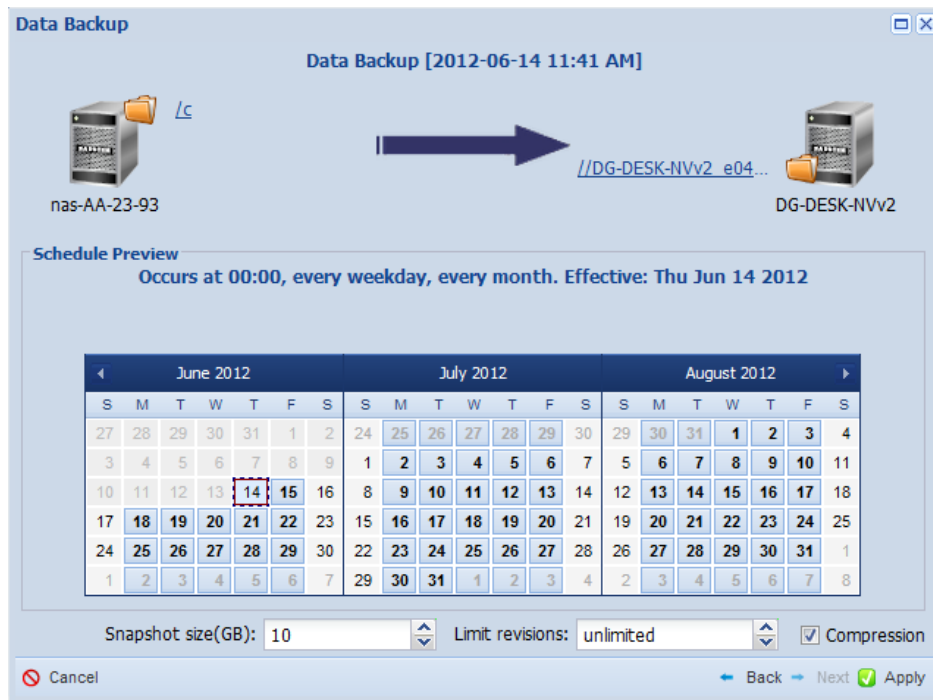
A schedule window displays.



- 5 In the **Effective from** field, select a date.
- 6 From the **Repeat** drop-down menu, select one of the following:
 - Hourly
 - Daily
 - Every Weekday
 - Monthly
 - Custom

7 Click Next.

A preview window displays.

**8 (Optional) Edit the Snapshot size setting.**

Specify how much of the snapshot reserve you want to use for the snapshot that is taken when a job runs and then released when the job completes. The **Snapshot size** value is set to 10 GB by default.

9 (Optional) Edit the Limit revisions setting.

You can save all versions of files in your backup or you can specify the number of revisions to keep. The **Limit revisions** value is set to unlimited by default.

10 (Optional) Clear the Disable compression check box.

Compression is enabled by default. For replication jobs running on the same LAN, disable compression, because compression slows the transfer speed.

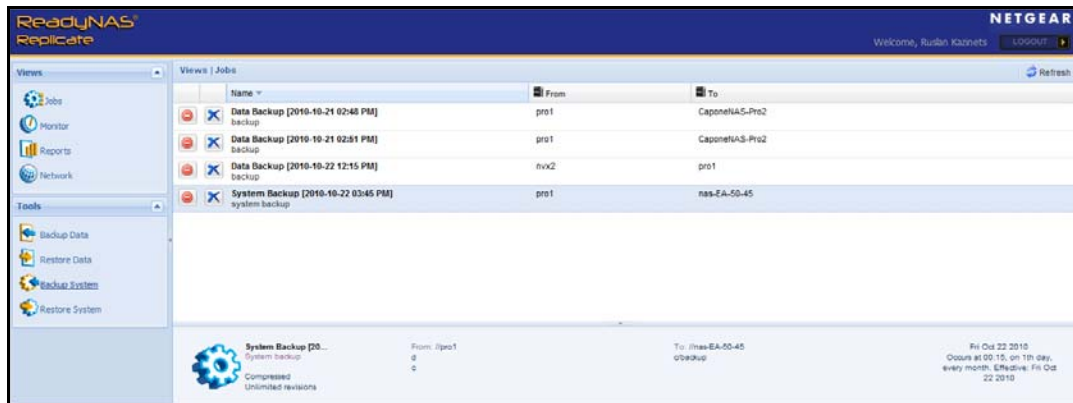
For WAN replication jobs, enable compression to keep the link from becoming a bottleneck. When scheduling jobs over the WAN, make sure that the link speed can allow the job to complete before the next job begins.

11 Click Apply.

Your changes are saved and the job is added to the list of scheduled jobs.

12. (Optional) Select **Views > Jobs**.

A list of scheduled jobs displays.



Restore

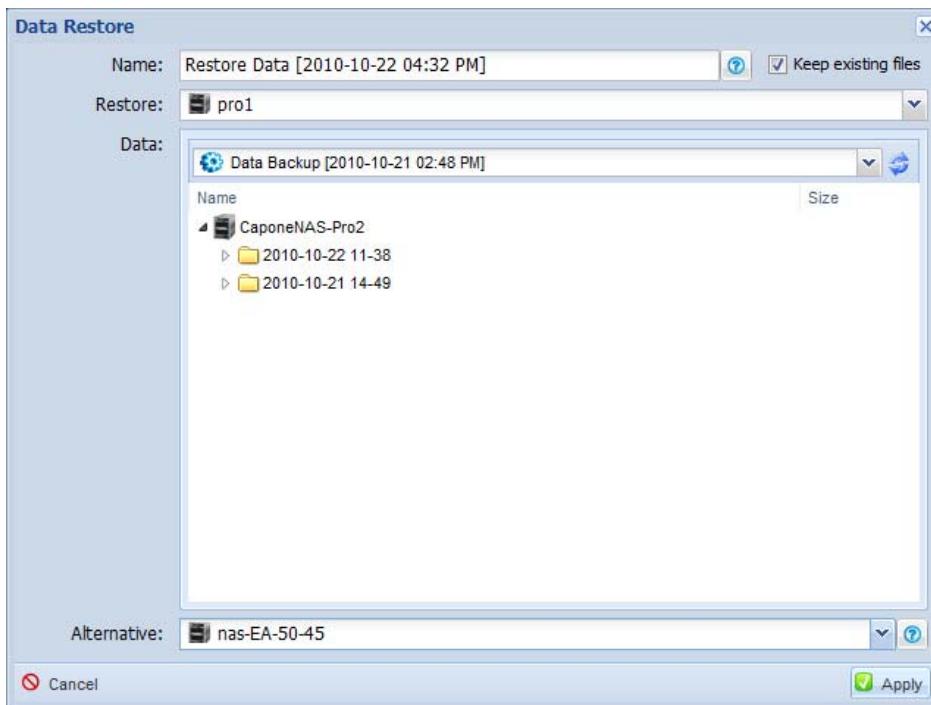
Restoring replicated data is similar to the process for replicating it.

Restore Data

Use this option to restore data at the individual folder level.

➤ **To restore data:**

1. Select **Tools > Restore Data**.



2. From the **Restore** drop-down menu, select the device with the data you want to restore.
3. From the **Data** drop-down menu, select the restoration job to restore.
If you want, you can select a different device from the **Alternative** drop-down menu.
4. Click **Apply**.

The data is restored.

Restore a System

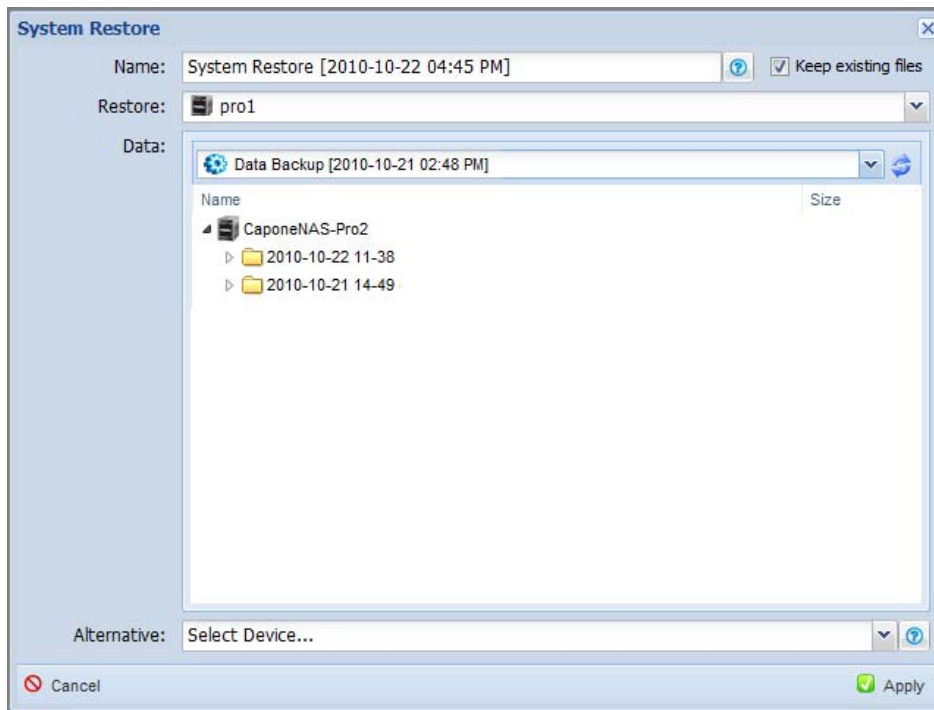
Use this option to restore data at the system level.

ReadyNAS Replicate supports restoring data at the system level only between ReadyNAS storage systems running similar firmware. For example, you can restore system data between any two ReadyNAS systems running RAIDiator 5.3 firmware, but you cannot restore system data between one ReadyNAS system running RAIDiator 5.3 firmware and another system running RAIDiator 4.2 firmware.

For a complete list of supported systems and the firmware they run, see [Installation](#) on page 6.

➤ **To restore system data:**

1. Select **Tools > Restore System**.



2. From the **Restore** drop-down menu, select the device with the data you want to restore.
3. From the **Data** drop-down menu, select the backup job to restore.
If you want, you can select a different device from the **Alternative** drop-down menu.
4. Click **Apply**.

The system data is restored.

Manage Replication Jobs

3

This chapter covers the following topics:

- *Monitor the Network*
- *View and Manage Jobs*
- *Monitor Jobs*
- *Run Job Reports*

Monitor the Network

The ReadyNAS Replicate home window lists each system registered on the network and the status of each.

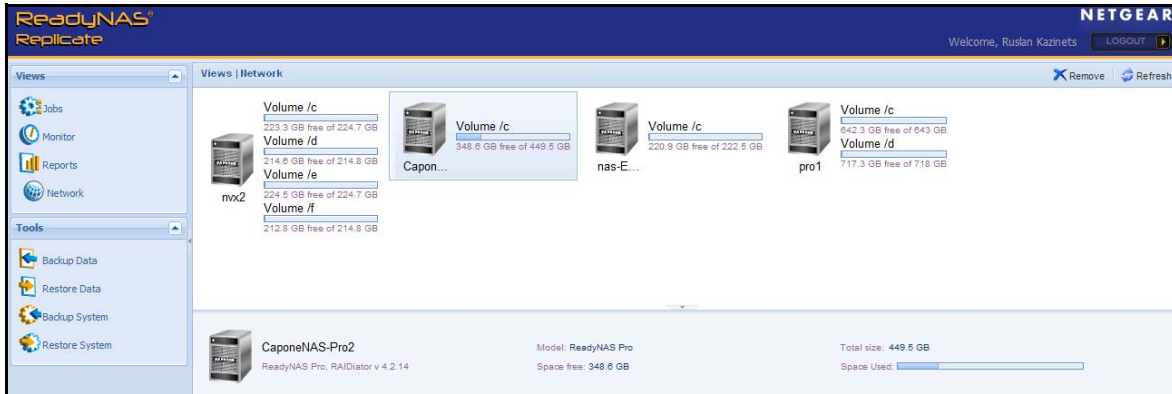


Figure 2. ReadyNAS Replicate home window

The top panel shows the following information:

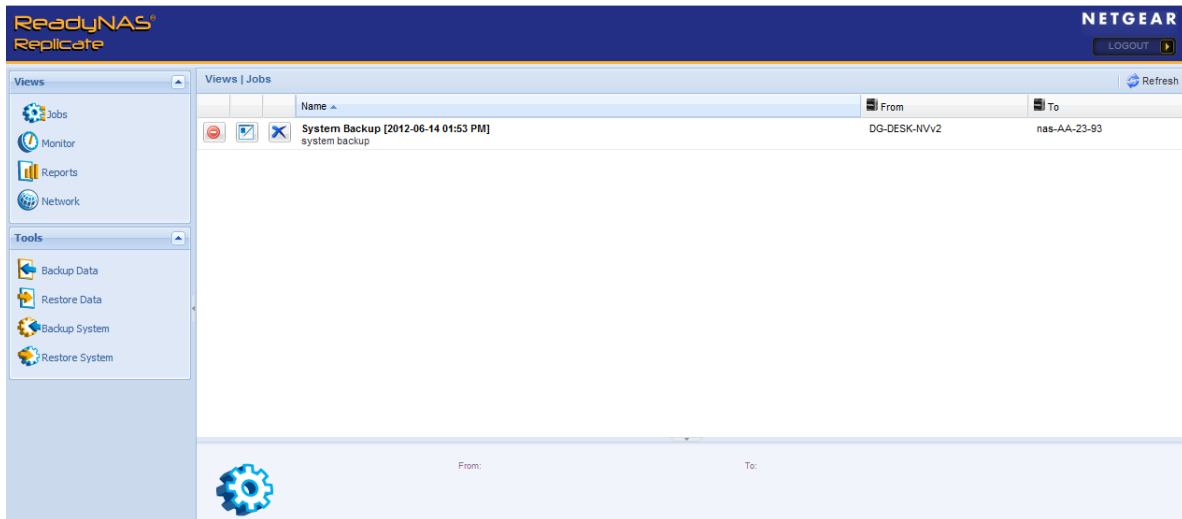
- Device name
- Each volume in the device
- Total size of each volume in the device
- Amount of space used on each volume

The bottom panel shows the following information:

- Device name
- RAIDiator firmware version
- Device model
- Free space on the device
- Total size of all volumes on the device
- Total space used on all volumes on the device

View and Manage Jobs

The Jobs view provides an easy way to add and delete restoration jobs. After a job is created, ReadyNAS Replicate runs that job based on the schedule defined for that job.



➤ To view and manage jobs:

1 Select **Views > Jobs**.

A list of backup jobs displays.

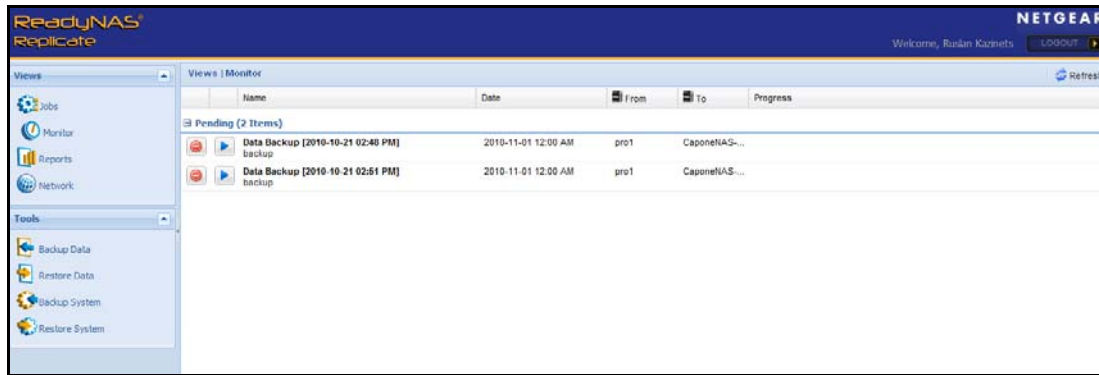
2 (Optional) Manage the jobs using the icons next to each job, as follows:



- **Disable a job.** Click the red icon.
- **Re-enable a disabled job.** Click the red icon again.
- **Edit a job.** Click the middle icon.
- **Delete a job.** Click the blue X icon.

Monitor Jobs

The Monitor view allows you to view the status of pending and active restoration jobs. Active jobs are currently running, while pending jobs are the next occurrences of scheduled jobs. If you want, you can run a job immediately from the Monitor view.



➤ To monitor jobs:

- 1 Click **Views > Monitor**.

A list of active and pending jobs displays. Active jobs are currently running, while pending jobs are the next occurrences of scheduled jobs.

- 2 (Optional) Manage active and pending jobs using the icons next to each job, as follows:



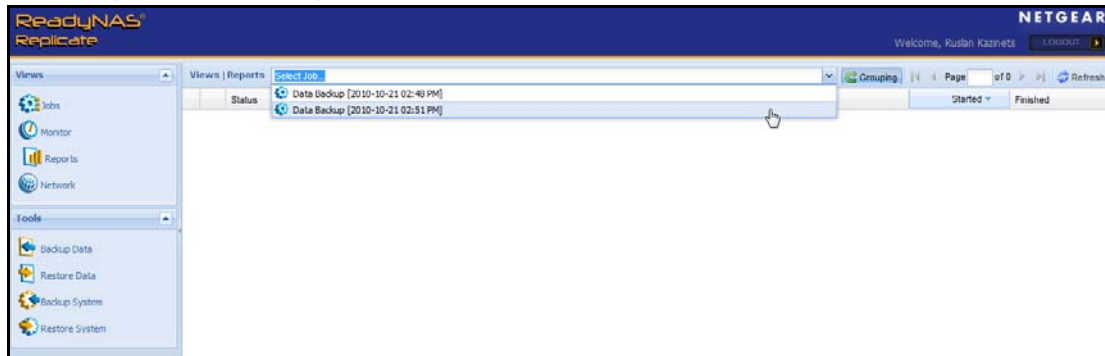
- **Skip the next occurrence of a scheduled job.** Click the red icon.
- **Return a skipped job to an enabled state.** Click the red icon again.
- **Immediately run a job.** Click the blue play button.

Run Job Reports

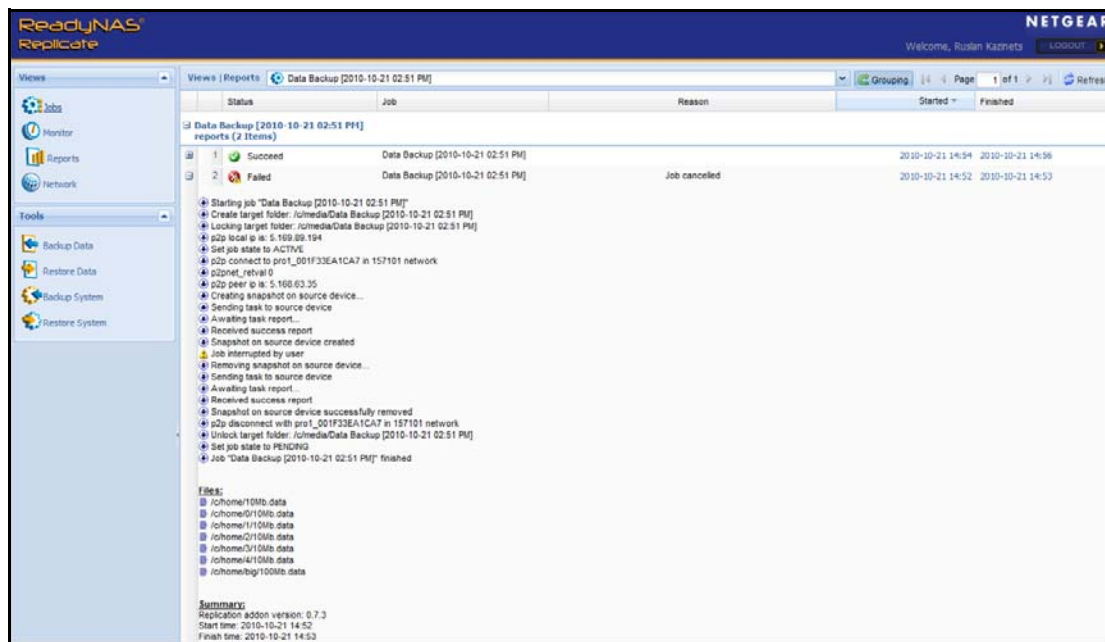
At your request, ReadyNAS Replicate generates reports that show the outcome of a scheduled job.

➤ **To run a report:**

1. Select **Views > Reports**.
2. Select a job from the drop-down menu.



A detailed progress report runs automatically.



3. Click a **+** icon to see details about the job.

If a job fails, a generated report shows where the problem occurred.